

- Menstrual cycle
- Twins
- Menopause

B4

The menstrual cycle

What causes periods?

As we grow up physical changes happen in our bodies. The changes make it possible for us to have babies.

At around 10 to 14 years girls start a monthly cycle called the **menstrual cycle**. The cycle lasts about 28 days and is controlled by substances called **hormones**.

Hormones cause an egg to develop and be released in each cycle. The lining of the uterus builds up and becomes soft and spongy.

If the egg is fertilised, it becomes implanted in this lining. If the egg is not fertilised, it dies and the soft lining is not needed for the embryo. The lining of dead cells and blood breaks down and leaves the body through the vagina. This is known as a **period**. We say that the period starts on day 1 of the cycle, as the diagram on the right shows.

- What is a period?
- In a 28-day menstrual cycle, on what day will the egg be released?

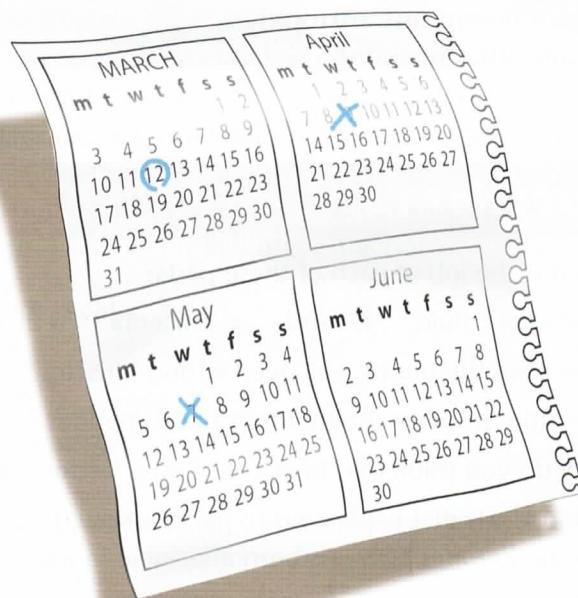
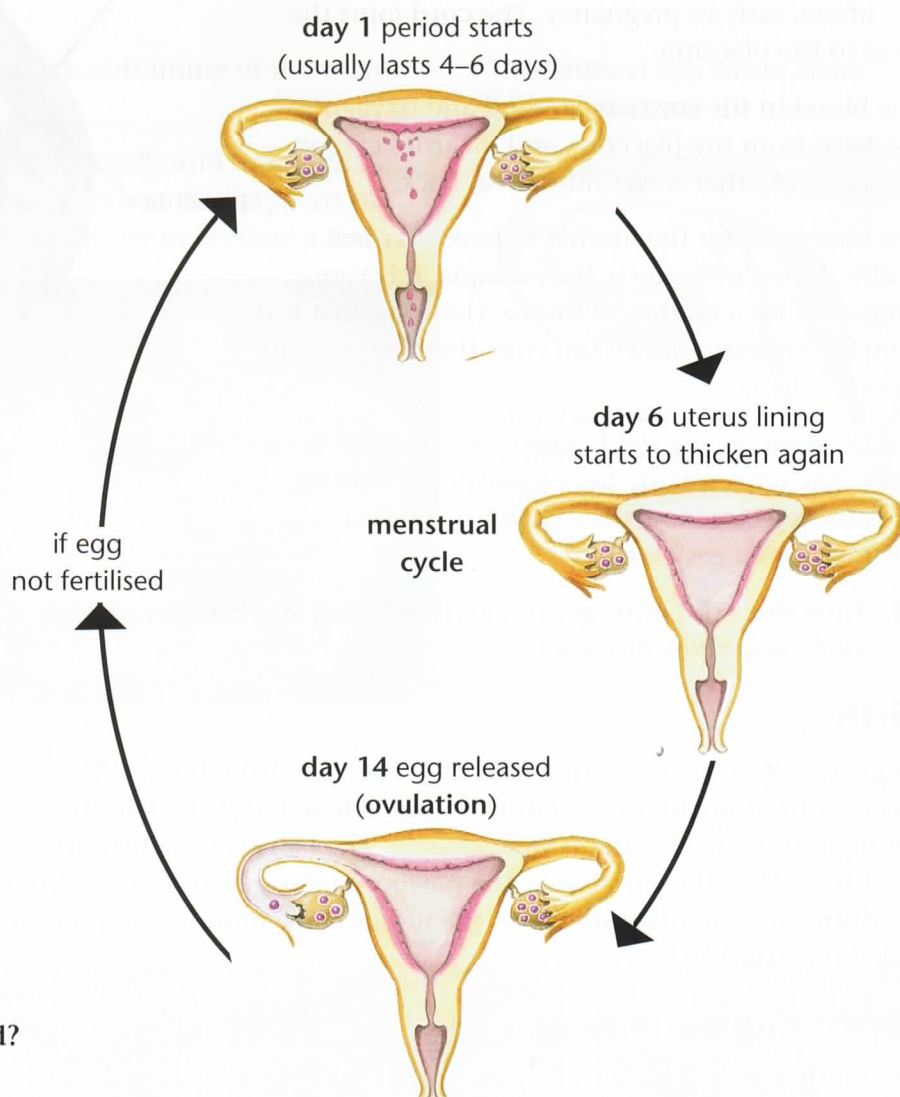
Becoming pregnant

If a woman has sexual intercourse between days 13 and 15, and any sperm reach the oviduct, one sperm will be able to fertilise the egg when it is released. If the egg is fertilised the uterus lining is needed to protect the embryo. It does not break down, so periods stop during pregnancy.

When will it happen?

Kellie started her periods in March during Year 7. She marked the date with a circle in her diary. She marked the first day of her next two periods with a cross.

- (i) How long is Kellie's cycle? (ii) On what date do you think Kellie's fourth period will start? (iii) On what date do you think her first egg might have been released?



One at a time

Usually, only one egg is released and fertilised at a time. This is because the human reproductive system is designed to make one baby at a time. A single baby has a better chance of survival.



Twins

Sometimes a woman gives birth to more than one baby at the same time. Two babies together are called **twins**.

Identical twins, like Hannah and Mary, are produced from just one egg. The egg splits into two just after fertilisation. Because both Hannah and Mary came from the same egg and sperm, they look exactly the same.

Non-identical twins, like Charlie and Amy, are produced if two eggs are released at the same time. Each egg is then fertilised by a different sperm. These twins are no more alike or different than any other brothers and sisters.

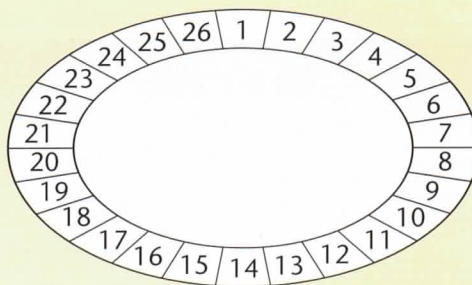


The menopause

Women usually stop having periods between 45 and 55 years. This is called the **menopause**. They no longer produce eggs and so cannot become pregnant, so there is no need for the uterus lining to thicken and break down. The menopause is the body's way of adapting to the fact that an older woman is more likely to find pregnancy and looking after a child more tiring than a younger woman.

Questions

- 1 Explain what happens in the menstrual cycle:
 - a between day 1 and day 4
 - b at about day 14
 - c at about day 6.
- 2 The diagram represents a 26-day menstrual cycle.
 - Copy the diagram.
 - Colour in red the days of the period.
 - Predict when ovulation will take place and circle the day.
- 3 In which part of the menstrual cycle is a woman most likely to become pregnant? Explain your answer.
- 4 Suggest reasons why a woman's periods stop when she is pregnant.
- 5 Explain the difference in the way identical twins and non-identical twins are produced.



For your notes:

- The **menstrual cycle** is a monthly cycle in women, controlled by **hormones**. During the cycle an egg is released, and the woman has a **period**.
- **Identical twins** come from one egg that splits into two after fertilisation.
- **Non-identical twins** are made when each egg is fertilised by a different sperm.
- The **menopause** is when a woman stops producing eggs and her periods stop. She can no longer become pregnant.